E N V I R O N M E N T A L   M A N A G E M E N T   S Y S T E M S
ISO 14001:1996 – ISO 14001:2004
Comparison Guide

This document is an attempt by NQA (National Quality Assurance) to simplify and explain the recent changes to the ISO 14000 standard. NQA can assist clients with technical guidance throughout their transition process. If after reading this guide, you have any questions, please feel free to contact our EH&S Business Manager- Larry Tibert (ltibert@nqa-usa.com or 800-649-5289).

ISO 14001 is an internationally accepted standard that defines the requirements for establishing, implementing and operating an Environmental Management System.

This guide gives an overview of the changes from the ISO 14001:1996 version to the ISO 14001:2004 version. It includes a clause comparison, information on definition changes and alignment with ISO 9001:2000.

SUMMARY O F C H A N G E S

The 2004 edition of the ISO 14001 standard aims to clarify the 1996 edition and align it more closely with the ISO 9001:2000 standard. Some clauses not modified for content have been rewritten to align ISO 14001:2004 with the format, wording, and layout of ISO 9001:2000 and to enhance the compatibility between the two standards.

The ISO 14001:2004 requirements and clause numbers now more closely match references in Annex A of the standard for ease of use. Additionally, Annex B identifies similarities and associations between ISO 9001:2000 and ISO 14001:2004.

In many cases, requirements that stated that an organization shall "establish and maintain," have now been changed to "establish, implement and maintain" throughout the standard. Another change seen throughout the standard is the replacement of the word "personnel" with "persons working for or on behalf of the organization." This distinction ensures external contractors are covered under certain clauses.

DOCUMENT COMPARISON CHART

The following chart shows how the clause titles and numbers differ between ISO 14001:1996 and ISO 14001:2004.

ISO 14001:1996	ISO 14001:2004

1 Scope
2 Normative References
3 Definitions
4.1 General Requirements
4.2 Environmental Policy
4.3 Planning
   4.3.1 Environmental Aspects
   4.3.2 Legal and Other Requirements
   4.3.3 Objectives and Targets
   4.3.4 Environmental Management Programme(s)
4.4 Implementation and Operation
   4.4.1 Structure and Responsibility
   4.4.2 Training, Awareness and Competence
   4.4.3 Communication
   4.4.4 Environmental Management System Documentation
   4.4.5 Document Control
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   4.4.7 Emergency Preparedness and Response
4.5 Checking and Corrective Action
   4.5.1 Monitoring and Measurement
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4.6 Management Review
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	2 Normative References
	3 Terms and Definitions
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	4.2 Environmental Policy
	4.3 Planning
	   4.3.1 Environmental Aspects
	   4.3.2 Legal and Other Requirements
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	4.4 Implementation and Operation
	   4.4.1 Resources, Roles, Responsibility and Authority
	   4.4.2 Competence, Training and Awareness
	   4.4.3 Communication
	   4.4.4 Documentation
	   4.4.5 Control of Documents
	   4.4.6 Operational Control
	   4.4.7 Emergency Preparedness and Response
	4.5 Checking
	   4.5.1 Monitoring and Measurement
	   4.5.2 Evaluation of Compliance
	   4.5.3 Nonconformity, Corrective Action and Preventive Action
	   4.5.4 Control of Records
	   4.5.5 Internal Audit
	4.6 Management Review

ISO 14001 CLAUSE CHANGES IN DETAIL

Introduction
Two additional paragraphs in the introduction clarify the focus of the standard. The additions and revisions to the introduction state the aim of the ISO 14001:2004 standard to enhance compatibility with ISO 9001:2000 and improve alignment between clause references and supporting annexes.

The introduction also includes an explanation of the PDCA model used in ISO 9001:2000, additional text promoting the use of the process approach, and possible alignment and integration with other management systems.

1. *Scope*
The scope of the standard has been expanded to include new applications in the 2004 version of the standard. They include options to demonstrate conformity by:

• Making a self-determination or self-declaration
• Seeking confirmation from parties who have an interest in the organization, for instance, customers
• Seeking certification or registration of the EMS by an external organization.

3. *Terms and Definitions*
ISO 14001:2004 includes some definitions not included in the 1996 version. Some of the definitions in ISO 14001:1996 have also been revised to ensure they are more consistent with terminology in ISO 9001:2000.

The following are **new** terms and definitions in ISO 14001:2004:

Clause	Term	ISO 14001:2004 Definition
3.1	Auditor	Person with the competence to conduct an audit
3.3	Corrective Action	Action to eliminate the cause of a detected nonconformity
3.4	Document	Information and its supporting medium
3.14	Internal Audit	Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the environmental management system audit criteria set by the organization are fulfilled
3.15	Nonconformity	Non-fulfillment of a requirement
3.17	Preventive Action	Action to eliminate the cause of a potential nonconformity
3.19	Procedure	Specified way to carry out an activity or a process
3.20	Record	Document stating results achieved or providing evidence of activities performed

The following are terms and definitions that have been **modified** in the new version of ISO 14001:2004:

(New text included in ISO 14001:2004 is in Bold and Italic, and text from ISO 14001:1996 that has been removed has been crossed out)

Clause	Term	ISO 14001:2004 Definition
3.2	Continual Improvement	***Recurring*** process of enhancing the environmental management system ***in order*** to achieve improvements in overall environmental performance ***consistent*** ~~in line~~ with the organization's environmental policy.
3.7	Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's ~~activities, products or services~~ ***environmental aspects.***
3.8	Environmental Management System (EMS)	~~The~~ part of an organization's management system ~~that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining the environmental policy~~. ***used to develop and implement its environmental policy and manage its environmental aspects.***
3.9	Environmental Objective	Overall environmental goal, ~~arising from the environmental policy~~ ***consistent with the environmental policy*** that an organization sets itself to achieve, ~~and which is quantified where practicable.~~
3.10	Environmental Performance	Measurable results ~~of the environmental management system, related to an organization's control of its environmental aspects, based on its environmental policy, objectives and targets.~~ ***of an organization's management of its environmental aspects.***
3.11	Environmental Policy	~~Statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets.~~ ***Overall intentions and direction of an organization related to its environmental performance as formally expressed by top management.***
3.12	Environmental Target	Detailed performance requirement, ~~quantified where practicable,~~ applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
3.18	Prevention of Pollution	Use of processes, practices, ***techniques***, material, products, ***services or energy to*** ~~that~~ avoid, reduce or control ~~pollution, which may include recycling, treatment, process~~

~~changes, control mechanisms, efficient use of resources and material substitution.~~ *(separately or in combination) the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts.*

4. *Environmental Management System Requirements*

4.1 General Requirements
The standard now includes a requirement for:
• Continual improvement to the EMS
• A defined and documented scope of the EMS

4.2 Environmental Policy
The environmental policy now must be defined within the scope of the EMS. The policy must also be communicated to all persons working for—or on behalf of—the organization.

4.3.1 Environmental Aspects
Aspects now must be identified within the defined scope of the EMS and are required to be documented and kept up to date (including planned and new activities). The ISO 14001:2004 standard also requires organizations to take significant aspects into account when establishing, implementing, and maintaining their EMS.

4.3.2 Legal and Other Requirements
Clause 4.3.2 now states that an organization must determine how legal and other requirements apply to its aspects. The organization must also take these requirements into account when establishing, implementing, and maintaining its EMS.

4.3.3 Objectives, Targets and Program(s)
Clause 4.3.3 of ISO 14001:2004 merges clause 4.3.3, "Objectives and Targets," and clause 4.3.4, "Environmental Management Program(s)," of ISO 14001:1996. Revisions include an additional requirement that objectives and targets be measurable, consistent with legal and other requirements, and committed to continual improvement.

4.4.1 Resources, Roles, Responsibility and Authority
(was 4.4.1 Structure and Responsibility)
In the 2004 revision, management is now tasked to "ensure the availability" of resources instead of "provide resources" in the 1996 standard. The list of necessary resources has been expanded to include organizational infrastructure. There is also a requirement that the management representative provide top management with recommendations for improvement to the EMS.

4.4.2 Competence, Training and Awareness
(was 4.4.2 Training, Awareness and Competence)
ISO 14001:2004 states that in an organization, "any person(s) performing tasks for it or on its behalf" must be identified by the organization as competent if their activities have the potential to cause a significant environmental impact. This has been changed from "all personnel" to include contractors onsite and other persons not employed by the organization who might perform an activity that could cause a significant impact. A new requirement for records to be kept regarding appropriate education, training, or experience was added to clause 4.4.2.

4.4.3 Communication
 An addition has been made to clause 4.4.3 to require the organization, should they decide to communicate with external parities about their significant aspects, to introduce method(s) –" instead of "processes" as required by the 1996 standard – for this communication.

4.4.4 Documentation
(was 4.4.4 Environmental Management System Documentation)
Clause 4.4.4 has not changed in intent, but has been updated to align it more with ISO 9001:2000. ISO 14001:2004 requires documentation to include:
• The environmental policy, objectives, and targets
• The scope of the EMS
• A description of the main elements of the EMS, their interaction, and reference to related documents
• Documents, including records, required by ISO 14001:2004
• Documents, including records, determined as necessary by the organization to its significant environmental aspects

4.4.5 Control of Documents
(was 4.4.5 Document Control)
Formatting changes help align clause 4.4.5 of ISO 14001:2004 with ISO 9001:2000. An additional clarification has been made to define records as a special type of document requiring control. A new addition to the requirements aims to ensure documents of external origin, (i.e. MSDS, permits) that are necessary to the system, are identified and their distribution controlled.

4.4.6 Operational Control
No significant changes have been made to this clause. As in many other instances, "implementing" has been added to "establishing and maintaining procedures" to clarify actions required for conformance with ISO 14001:2004.

4.4.7 Emergency Preparedness and Response
No significant changes have been made to this clause. The revised standard clarifies one requirement by stating that in the actual event of an emergency, the organization shall respond in such a way to prevent or mitigate associated adverse environmental impacts.

4.5.1 Monitoring and Measurement
Clause 4.5.1 does not include any substantial additional requirements. The requirement to ensure that calibrated monitoring and measurement equipment is used and maintained has been extended to include calibrated or "verified" monitoring and measurement equipment.

4.5.2 Evaluation of Compliance
This clause has been separated from 4.5.1 to become its own clause. This achieves clarification, while adding additional requirements. Included in 4.5.1 of ISO 14001:1996 was a requirement for the organization to periodically evaluate compliance with relevant environmental legislation and regulations. This requirement has become sub clause 4.5.2.1 in the 2004 standard. Sub clause 4.5.2.2 of the 2004 standard calls for evaluation of compliance with other requirements to which it subscribes. A new requirement has been added that requires an organization to keep records of periodic evaluations of compliance.

4.5.3 Nonconformity, Corrective Action and Preventive Action
(was 4.5.2 Nonconformance and Corrective and Preventive Action)
The revision to this clause aligns the requirements for identifying and correcting nonconformities with similar requirements in ISO 9001:2000. Clearer definitions are provided for actions needed to prevent, investigate, identify, evaluate, review, and record nonconformities, corrective actions, and preventive actions.

4.5.4 Control of Records
(was 4.5.3 Records)
Control of records has been simplified, reworded, and reformatted to align its content with ISO 9001:2000. Records must demonstrate conformity to the EMS. In keeping with the focus on continual improvement, a new requirement has been added for records to demonstrate "results achieved." Results are understood to mean outcomes of audits, corrective actions, operation control, programs to achieve objectives, and monitoring.

4.5.5 Internal Audit
(was 4.5.4 Environmental Management System Audit)
There are two key additions to this clause. First, the revision adds that the internal audit process must address the retention of associated records. Second, the revision considers the selection of auditors and states that the selected auditors shall ensure objectivity and impartiality in the audit process. This statement is important when choosing an internal auditor. The organization must ensure that the auditor has freedom from bias or other influences that could affect their objectivity.

4.6 Management Review
Clause 4.6 in ISO 14001:2004 includes some important changes that align it closer to ISO 9001:2000. The aim of the clause is the same, but the revision is more prescriptive. The prescriptive language details inputs to the management review process (not all of which are in ISO 14001:1996) including:

• Results of internal audits and evaluations of compliance with legal and other requirements
• Communication from external interested parties including complaints
• The environmental performance of the organization
• The extent to which objectives and targets have been met
• The status of preventive and corrective actions
• Follow-up actions from previous management reviews
• Changing circumstances including developments in legal and other requirements
• Recommendations for improvement

Specific outputs of the management review include continual improvement and decisions and actions for possible changes to:
• The environmental policy
• Objectives
• Targets
• Other elements of the system